

ANL-W SNF/HLW Transportation

Transportation Working Group Meeting

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Sodium Bonded SNF to be Treated

- **ANL-W: ~1 MTHM EBR-II driver fuel,
 ~22 MTHM EBR-II blanket fuel***
 - INEEL: ~2 MTHM EBR-II driver fuel**
 - Hanford: ~0.3 MTHM Experimental FFTF fuel**
 - Miscellaneous: 0.1 MTHM**
- * Sodium-Treatment of 34 MTHM of Fermi blanket not yet determined by DOE. EMT HLW from this fuel would fill ~71 DOE standardized canisters.**

Offsite Feedstock for Treatment:

- Transport EBR-II SNF (~3625 containers) from CPP-666 to ANL-W for Treatment (17 TN-FSV or 43 NAC-LWT cask shipments, e.g.)
- Transport Na bonded FFTF fuel (~1000 pins) from Hanford to ANL-W (negotiations with FFTF Project in progress)
- Transport miscellaneous Na bearing oxide SNF from Sandia to ANL-W

Quantity of Electrometallurgical Treatment HLW Produced

- Two types of HLW produced:
- ~6 metric tons of Stainless Steel-Zr metal HLW filling ~3-6 DOE Standardized Canisters
- ~51 metric tons of Zeolite Ceramic HLW filling ~54 DOE Standardized Canisters
- Result: ~60 Cask Shipments offsite

Possible INEEL role in shipping HLW/SNF to Yucca Mt.

- ANL-W lacks a railhead, but hotcell interfaces with DOE/commercial over-the-road casks.
- To package ANL-W HLW and miscellaneous SNF canisters into 10'x24" DOE Standardized Canisters.
- Ship ANL-W HLW/SNF to Yucca Mt., piggybacking numerous INEEL shipments.

Possible INEEL role in shipping HLW/SNF to Yucca Mt.

- **Receive ~4.7 MTHM of miscellaneous non-Na bonded SNF for packaging/transport to Yucca Mt. in DOE standardized canisters. Number of shipments TBD.**

Schedule

- **ANL is flexible in terms of HLW and non-Na bonded SNF shipments to INEEL (if utilized) or Yucca Mt.**
- **Governor Batt milestone of 2035 to remove SNF is the main driver, no facility shutdowns mandated at ANL-W .**
- **HLW production takes place in the 2005-2015 timeframe.**
- **HLW offsite shipping can start as early as 2008.**

Facility Cask Interface Description

- Casks would interface with ANL-W hot cells : the Hot Fuel Examination Facility (HFEF).
- Cask envelopes:
 - Weight limit: 30 tons (cask cart limit)
 - Length limit: ~210 inches
 - Cask body diameter limit: 36 inches
 - Hot cell floor penetration diameter (for receiving canisters): ~21.5"

Facility Cask Interface Description

- Examples of large capacity casks which HFEF is certified to handle : NAC-LWT and TN-FSV.
- Other licensed DOE casks such as the T-2 and T-3 casks have also been routinely handled.